

Amendments to the Claims

Please cancel claims 520, 546, 572, and 598 without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-90 (Cancelled).

91. (Currently amended): A system configured to assess treatments for disease of a human heart, comprising:

a CPU; and

a system memory coupled to the CPU, wherein the system memory stores one or more computer programs executable by the CPU;

wherein one or more computer programs are executable to:

perform a first modification of at least one feature of one or more first images of heart tissue;

perform at least one second modification of at least one of the features, wherein the second modification is performed independent of the first modification; and

compare at least one effect of the first modification to at least one effect of the second modification, or compare at least one effect of the second modification to at least one effect of the first modification;

determine at least a first and second volume of a portion of the heart tissue and blood flow through a portion of the heart; and

assess a mitral regurgitation with a provided velocity of a fluid through at least a portion of the aorta.

92. (Currently amended): A computer-readable ~~carrier~~-medium configured to store program instructions, wherein the program instructions are executable to implement a method to assess treatments for a human heart, comprising:

performing a first modification of at least one feature of one or more first images of heart tissue;

performing at least one second modification of at least one of the features, wherein the second modification is performed independent of the first modification; and

comparing at least one effect of the first modification to at least one effect of the second modification, or comparing at least one effect of the second modification to at least one effect of the first modification;

determining at least a first and second volume of a portion of the heart tissue and blood flow through a portion of the heart; and

assessing a mitral regurgitation with a provided velocity of a fluid through at least a portion of the aorta.

93-494 (Cancelled).

495. (Previously presented): The system of claim 91, wherein the first and at least second modifications of at least one feature are compared automatically by at least one of the computer programs based on at least some user input.

496. (Previously presented): The system of claim 91, wherein at least one of the features comprises an image.

497. (Previously presented): The system of claim 91, wherein at least one of the features comprises at least a portion of an image.

498. (Previously presented): The system of claim 91, wherein at least one of the features comprises a numerical feature.

499. (Currently amended): The system of claim 91, wherein at least one of the features comprises a numerical feature derived at least in part from at least a portion of a first image.

500. (Previously presented): The system of claim 91, wherein the first and at least second modifications of at least one feature are compared automatically by at least one of the computer programs by comparing the first and at least second modifications of at least one feature to a database.

501. (Previously presented): The system of claim 500, wherein the database comprises data derived from expert opinion.

502. (Currently amended): The system of claim 500, wherein one or more computer programs are further executable to divide at least one first image into a plurality of sections.

503. (Previously presented): The system of claim 500, wherein the database comprises clinical data.

504. (Currently amended): The system of claim 503, wherein the clinical data comprises data derived from ~~previous~~ surgical procedures.

505. (Currently amended): The system of claim 91, wherein one or more computer programs are further executable to extrapolate at least one portion of at least one feature from at least two first images of human heart tissue.

506. (Currently amended): The system of claim 91, wherein one or more computer programs are further executable to:

use at least two first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least three-dimensional.

507. (Currently amended): The system of claim 91, wherein one or more computer programs are further executable to:

use at least some of a plurality of first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least four-dimensional.

508. (Previously presented): The system of claim 507, wherein one of the dimensions comprises time.

509. (Previously presented): The system of claim 507, wherein at least one of the dimensions comprises at least one physiological factor.

510. (Previously presented): The system of claim 509, wherein at least one physiological factor comprises hormone B-type natriuretic peptide.

511. (Previously presented): The system of claim 91, wherein one or more computer programs are further executable to create at least one image of the assessed condition of the heart.

512. (Previously presented): The system of claim 511, wherein at least one image of the assessed condition comprises at least a portion appearing three-dimensional.

513. (Previously presented): The system of claim 511, wherein at least one image of the assessed condition of the heart comprises progressive coloring.

514. (Previously presented): The system of claim 513, wherein progressive coloring comprises grayscale.

515. (Previously presented): The system of claim 91, wherein at least one of the computer programs is further executable to assess a volume of at least a portion of the heart tissue.

516. (Currently amended): The system of claim 91, wherein at least one of the computer programs is further executable to:

compare a contrast between two or more sections in at least one first image; and
assess a viability of the heart tissue.

517. (Currently amended): The system of claim 91, wherein at least one of the computer programs is further executable to:

evaluate motion of at least one portion of at least one feature of one or more first images of heart tissue; and
assess asynergy of the heart tissue.

518. (Previously presented): The system of claim 91, wherein at least one of the computer programs is further executable to:

evaluate a curvature of at least a section of a portion of a heart comprising the heart tissue; and
assess a shape of at least the portion of the heart.

519. (Currently amended): The system of claim 91, wherein at least one of the computer programs is further executable to:

assign at least one reference point to at least two first images of the heart tissue;
evaluate a relative movement of at least one of the reference points between at least two first images of the heart tissue; and
assess a viability of the heart tissue.

520. (Cancelled)

521. (Currently amended): The ~~earlier~~ computer-readable medium of claim 92, wherein the first and at least second modifications of at least one feature are compared automatically by at least by at least some of the program instructions based on at least some user input.

522. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein at least one of the features comprises an image.

523. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein at least one of the features comprises at least a portion of an image.

524. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein at least one of the features comprises a numerical feature.

525. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein at least one of the features comprises a numerical feature derived at least in part from at least a portion of ~~an~~ first image.

526. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the first and at least second modifications of at least one feature are compared automatically by at least some of the program instructions by comparing the first and at least second modifications of at least one feature to a database.

527. (Currently amended): The ~~earlier~~computer-readable medium of claim 526, wherein the database comprises data derived from expert opinion.

528. (Currently amended): The ~~earlier~~computer-readable medium of claim 526, wherein the program instructions are further executable to divide at least one first image into a plurality of sections.

529. (Currently amended): The ~~earlier~~computer-readable medium of claim 526, wherein the database comprises clinical data.

530. (Currently amended): The ~~earlier~~computer-readable medium of claim 529, wherein the clinical data comprises data derived from ~~previous~~-surgical procedures.

531. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement a method comprising:

extrapolating at least one portion of at least one feature from at least two first images of human heart tissue.

532. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement a method comprising:

using at least two first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least three-dimensional.

533. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement a method comprising:

using at least some of a plurality of first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least four-dimensional.

534. (Currently amended): The ~~earlier~~computer-readable medium of claim 533, wherein one of the dimensions comprises time.

535. (Currently amended): The ~~earlier~~computer-readable medium of claim 533, wherein at least one of the dimensions comprises at least one physiological factor.

536. (Currently amended): The ~~earlier~~computer-readable medium of claim 535, wherein at least one physiological factor comprises hormone B-type natriuretic peptide.

537. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement a method comprising:

creating at least one image of the assessed condition of the heart.

538. (Currently amended): The ~~earlier~~computer-readable medium of claim 537, wherein at least one image of the assessed condition comprises at least a portion appearing three-dimensional.

539. (Currently amended): The ~~earlier~~computer-readable medium of claim 537, wherein at least one image of the assessed condition of the heart comprises progressive coloring.

540. (Currently amended): The ~~earlier~~computer-readable medium of claim 539, wherein progressive coloring comprises grayscale.

541. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement:
assessing a volume of at least a portion of the heart tissue.

542. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement:
comparing a contrast between two or more sections in at least one first image; and
assessing a viability of the heart tissue.

543. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement:
evaluating motion of at least one portion of at least one feature of one or more first images of heart tissue; and
assessing asynergy of the heart tissue.

544. (Currently amended): The ~~earlier~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement:
evaluating a curvature of at least a section of a portion of a heart comprising the heart tissue; and
assessing a shape of at least the portion of the heart.

545. (Currently amended): The ~~earr~~computer-readable medium of claim 92, wherein the program instructions are further executable to implement:

assigning at least one reference point to at least two first images of the heart tissue;
evaluating a relative movement of at least one of the reference points between at least two first images of the heart tissue; and
assessing a viability of the heart tissue.

546. (Cancelled)

547. (Currently amended): A system configured to assess treatments for disease of a human heart, comprising:

a CPU; and
a system memory coupled to the CPU, wherein the system memory stores one or more computer programs executable by the CPU;
wherein one or more computer programs are executable to:
perform a modification of at least one feature of one or more first images of heart tissue;
compare the modification to at least one reference modification in a database to assess an effect of the modification;
determine at least a first and second volume of a portion of the heart tissue and blood flow through a portion of the heart; and
assess a mitral regurgitation with a provided velocity of a fluid through at least a portion of the aorta.

548. (Previously presented): The system of claim 547, wherein the modification of at least one feature are compared automatically to a reference modification by at least one of the computer programs based on at least some user input.

549. (Currently amended): The system of claim 548, wherein one or more computer programs are further executable to divide at least one first image into a plurality of sections.

550. (Previously presented): The system of claim 547, wherein at least one of the features comprises an image.

551. (Previously presented): The system of claim 547, wherein at least one of the features comprises at least a portion of an image.

552. (Previously presented): The system of claim 547, wherein at least one of the features comprises a numerical feature.

553. (Currently amended): The system of claim 547, wherein at least one of the features comprises a numerical feature derived at least in part from at least a portion of an first image.

554. (Previously presented): The system of claim 547, wherein the database comprises data derived from expert opinion.

555. (Previously presented): The system of claim 547, wherein the database comprises clinical data.

556. (Currently amended): The system of claim 555, wherein the clinical data comprises data derived from ~~previous~~ surgical procedures.

557. (Currently amended): The system of claim 547, wherein one or more computer programs are further executable to extrapolate at least one portion of at least one feature from at least two first images of human heart tissue.

558. (Currently amended): The system of claim 547, wherein one or more computer programs are further executable to:

use at least two first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least three-dimensional.

559. (Currently amended): The system of claim 547, wherein one or more computer programs are further executable to:

use at least some of a plurality of first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least four-dimensional.

560. (Previously presented): The system of claim 559, wherein one of the dimensions comprises time.

561. (Previously presented): The system of claim 559, wherein at least one of the dimensions comprises at least one physiological factor.

562. (Previously presented): The system of claim 561, wherein at least one physiological factor comprises hormone B-type natriuretic peptide.

563. (Previously presented): The system of claim 547, wherein one or more computer programs are further executable to create at least one image of the assessed condition of the heart.

564. (Previously presented): The system of claim 563, wherein at least one image of the assessed condition comprises at least a portion appearing three-dimensional.

565. (Previously presented): The system of claim 563, wherein at least one image of the assessed condition of the heart comprises progressive coloring.

566. (Previously presented): The system of claim 565, wherein progressive coloring comprises grayscale.

567. (Previously presented): The system of claim 547, wherein at least one of the computer programs is further executable to assess a volume of at least a portion of the heart tissue.

568. (Currently amended): The system of claim 547, wherein at least one of the computer programs is further executable to:

compare a contrast between two or more sections in at least one first image; and
assess a viability of the heart tissue.

569. (Currently amended): The system of claim 547, wherein at least one of the computer programs is further executable to:

evaluate motion of at least one portion of at least one feature of one or more first images of heart tissue; and
assess asynergy of the heart tissue.

570. (Previously presented): The system of claim 547, wherein at least one of the computer programs is further executable to:

evaluate a curvature of at least a section of a portion of a heart comprising the heart tissue; and
assess a shape of at least the portion of the heart.

571. (Currently amended): The system of claim 547, wherein at least one of the computer programs is further executable to:

assign at least one reference point to at least two first images of the heart tissue;
evaluate a relative movement of at least one of the reference points between at least two first images of the heart tissue; and
assess a viability of the heart tissue.

572. (Cancelled)

573. (Currently amended): A ~~earlier~~computer-readable medium configured to store program instructions, wherein the program instructions are executable to implement a method to assess treatments for a human heart, comprising:

performing a modification of at least one feature of one or more first images of heart tissue; ~~and~~

comparing the modification to one or more reference modifications in a database to assess at least one effect of the modification;

determining at least a first and second volume of a portion of the heart tissue and blood flow through a portion of the heart; and

assessing a mitral regurgitation with a provided velocity of a fluid through at least a portion of the aorta.

574. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the modification of at least one feature is compared automatically to a reference modification by the program instructions based on at least some user input.

575. (Currently amended): The ~~earlier~~computer-readable medium of claim 574, wherein the program instructions are further executable to divide at least one first image into a plurality of sections.

576. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein at least one of the features comprises an image.

577. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein at least one of the features comprises at least a portion of an image.

578. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein at least one of the features comprises a numerical feature.

579. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein at least one of the features comprises a numerical feature derived at least in part from at least a portion of an first image.

580. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the database comprises data derived from expert opinion.

581. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the database comprises clinical data.

582. (Currently amended): The ~~earlier~~computer-readable medium of claim 581, wherein the clinical data comprises data derived from ~~previous~~ surgical procedures.

583. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement a method comprising:

extrapolating at least one portion of at least one feature from at least two first images of human heart tissue.

584. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement a method comprising:

using at least two first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least three-dimensional.

585. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement a method comprising:

using at least some of a plurality of first images of human heart tissue to create at least a second image of human heart tissue, wherein at least a portion of the second image appears at least four-dimensional.

586. (Currently amended): The ~~earlier~~computer-readable medium of claim 585, wherein one of the dimensions comprises time.

587. (Currently amended): The ~~earlier~~computer-readable medium of claim 585, wherein at least one of the dimensions comprises at least one physiological factor.

588. (Currently amended): The ~~earlier~~computer-readable medium of claim 587, wherein at least one physiological factor comprises hormone B-type natriuretic peptide.

589. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement a method comprising:
creating at least one image of the assessed condition of the heart.

590. (Currently amended): The ~~earlier~~computer-readable medium of claim 589, wherein at least one image of the assessed condition comprises at least a portion appearing three-dimensional.

591. (Currently amended): The ~~earlier~~computer-readable medium of claim 589, wherein at least one image of the assessed condition of the heart comprises progressive coloring.

592. (Currently amended): The ~~earlier~~computer-readable medium of claim 591, wherein progressive coloring comprises grayscale.

593. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement:
assessing a volume of at least a portion of the heart tissue.

594. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement:
comparing a contrast between two or more sections in at least one first image; and
assessing a viability of the heart tissue.

595. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement:

evaluating motion of at least one portion of at least one feature of one or more first images of heart tissue; and
assessing asynergy of the heart tissue.

596. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement:

evaluating a curvature of at least a section of a portion of a heart comprising the heart tissue; and
assessing a shape of at least the portion of the heart.

597. (Currently amended): The ~~earlier~~computer-readable medium of claim 573, wherein the program instructions are further executable to implement:

assigning at least one reference point to at least two first images of the heart tissue;
evaluating a relative movement of at least one of the reference points between at least two first images of the heart tissue; and
assessing a viability of the heart tissue.

598. (Cancelled)